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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/100,838 06/19/98 MURARI

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EXAMINER

KWOK, H

ART UNIT

PAPER NUMBER

2856

DATE MAILED:

01/24/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/100,838

Applicant(s)
Murari et al.

Examiner
H. Kwok

Group Art Unit
2856



☒ Responsive to communication(s) filed on Jan 10, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-20 is/are pending in the application.

Of the above, claim(s) 8-11 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-7 and 12-20 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Election/Restriction

1. Applicant's election of Group I (Claims 1-7, 12-20) in Paper No. 8 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 8-11 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to a non-elected invention. Election was made **without** traverse in Paper No. 8.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Europe on June 19, 1997. It is noted, however, that applicant has not filed a certified copy of the European application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 U.S.C. § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 3-5 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, line 3, the phrase “each first conductive pad” is ambiguous. How can there be an “each” if there is only one first conductive pad?

In claim 4, line 3, the phrase “each third pad” is ambiguous. How can there be an “each” if there is only one third conductive pad?

In claim 5, line 3, the phrase “each fifth pad” is ambiguous. How can there be an “each” if there is only one fifth conductive pad? Also, in line 3, the word “third” should be changed to -- sixth --.

In claim 17, line 2, the phrases “the processing circuit” and “the second signal” lack antecedent basis. It appears the claim should be depended on claim 14 to provide proper antecedent basis.

Claim Rejections - 35 U.S.C. § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 1,6,12-15 and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0773443 (Flach et al.).

With regards to claims 1,6,12-15 and 18-19, Flach et al. discloses micro-machined accelerometer comprising, as illustrated in Figures 7-8, a sensor with a sensitive element (i.e. an accelerometer) formed in a first chip of semiconductor material forming an electrical signal such that the sensitive element is enclosed in a hollow structure; a processing circuit for processing the electrical signal is formed on a second chip of semiconductor material wherein the hollow structure includes a metal wall disposed around the sensitive element and the second chip is fixed on the wall. (See, Abstract).

Claim Rejections - 35 U.S.C. § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-7 and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,864,063 (Otani et al.) in view of U.S. Patent 5,650,567 (Ueda et al.) and U.S. Patent 5,719,334 (Parsons).

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Otani et al. discloses a capacity-type accelerometer comprising, as illustrated in Figures 1-9, a sensor 1 having a sensitive element 14 formed in a first chip 2 of semiconductor material for producing an electrical signal such that the sensitive element being enclosed in a hollow structure (as observed and formed by the semiconductor layer); a processing circuit 6 for processing the electrical signal formed in a second chip 3 of semiconductor material wherein the hollow structure includes wall 19 disposed on a surface of the first chip around the sensitive element and the second chip being fixed to the wall. (See, column 3, lines 13-40). The only difference between the prior art and the claimed invention is the hollow structure includes wall of metals. Ueda et al. discloses an acceleration sensor comprising, as illustrated in Figures 1 and 4B, a hollow structure (i.e. a cover or cap) made of metal encloses an acceleration sensor and processing circuit. (See, column 3, line 36-65 of Ueda et al.). It would have been an obvious design expedient at the time of invention to construct the hollow structure out of metal as suggested by Ueda et al. in lieu of the material as suggested by Otani et al. since this would not affect the operation and performance of the apparatus. Furthermore, regardless of the material used to fabricate the hollow structure, the function of the hollow structure is to prevent foreign substances from entering into the interior space of the hollow structure.

With regards to claim 2, although Ueda et al. do not disclose the metal wall is of nickel, the reference does suggest the material used to construct the hollow structure is of steel, tin or like material may be used. Thus, it is a mere design expedient to the operator what type of

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material to use and the availability of material at the time of production. (See, column 3, lines 46-53).

With regards to claims 3-5, Otani et al. further discloses conductive pads 20 formed on the surface of the first chip and the second chip. (See, column 3, line 41 to column 4, line 67; Figure 3).

With regards to claims 6-7, Otani et al. suggest the sensor is an inertial sensor, such as an accelerometer and encapsulated in a plastic packaging.

With regards to claims 12-19, the claims are commensurate in scope with claims 1-7 and are rejected for the same reasons as set forth above. Furthermore, Ueda et al. suggest an output terminal outside the hollow structure for receiving a final output signal for processing. (See, column 4, lines 61-67).

With regards to claim 20, Otani et al. does not disclose enclosing a gas within the hollow structure. Parsons discloses a hermetically protected sensor assembly comprising, as illustrated in Figures 2-3, filling the hollow structure with a gas (i.e. gel). (See, column 3, lines 4-9). To fill a hollow structure with gas or liquid or other means of damping materials is well known in the art to provide the apparatus with a hermetic seal and to dampen out unwanted vibrations and noise.

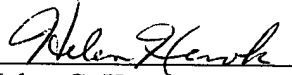
Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited are related to hermetically protected sensor assembly.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen Kwok whose telephone number is (703) 308-8149.


Helen C. Kwok
Art Unit 2856

hck
January 17, 2000